

What is claimed is:

1. Method for manufacturing a mat, comprising the steps of
 - providing a layer (4) that comprises volumized strands, yarns or twists (1, 2)
 - providing at least one further layer formed of fibers (5, 6)
 - connecting the layers (4, 5, 6), preferably by stitching.
2. Method according to claim 1, wherein non-volumized as well as volumized strands, yarns or twists are placed on top of each other in layers, preferably on a conveyor belt, the layers (4, 5, 6) then being stitched together.
3. Method according to the preceding claim, wherein the fibers or the strands, yarns or twists formed therefrom are placed by cutting continuous fibers, continuous strands, continuous yarns or continuous twists.
4. Method according to claim 1, 2 or 3, wherein the layers (4, 5, 6) are formed by fibers, strands, yarns or twists that are arranged parallel to the surface (7) of the mat.
5. Method according to one of the preceding claims, wherein the fibers, strands, yarns or twists provided for the layer structure have a length of between 5 to 200 mm and/or the hollow microbodies used for volumization have an average diameter of 20 to 300 μm .
6. Method according to one of the preceding claims, wherein the central ply as well as the surface plies are formed of glass fibers.
7. Method according to one of the preceding claims, wherein the mat is introduced into a mold, and hardenable resins are introduced into the mold for manufacturing a fiber-reinforced molded article.
8. Mat which can be manufactured according to a method having

the features according to one of the preceding claims, comprising a central ply of volumized strands, yarns, twists, as well as surface plies of non-volumized fibers that are stitched together.

- 5 9. Mat according to the preceding claim, wherein the fibers, strands, yarns or twists are arranged parallel to the surface (7).
10. Mat according to one of the two preceding claims, wherein the fibers, strands, yarns or twists are formed exclusively from glass fibers.
- 10 11. Apparatus for manufacturing a mat according to one of the three preceding claims, consisting of three cutters (9, 10, 11) arranged behind one another that are disposed above a conveyor belt (8), as well as of means (12) for stitching cut fibers, strands, yarns or twists placed on the conveyor belt (8) that come from the cutters (9, 10, 11).
- 15 12. Apparatus according to the preceding claim, wherein volumized strands, yarns or twists are fed to the cutter arranged in the middle, and non-volumized strands, yarns or twists are fed to the other two cutters.